Listing of the claims:

1. (Currently amended) A safety device against crane overturning which operates in a crawler crane comprising at least four outriggers ~~in~~ and a frame, the four outriggers operable to make allowance for variation so as to maximize or minimize an overhang distance, an attaching member rotatively movable in a horizontal direction and supported by the frame, a base end arm supported by the attaching member so that the base end arm can be freely raised and laid, an intermediate arm supported by the base end are so that the intermediate arm can be freely raised and laid, a leading end arm in slidable contact with the intermediate arm, an outrigger cylinder provided between the attaching member and the base end arm and operable to raise and lay the base end arm; the safety device ~~being characterized by~~ comprising:

a load detector that detects a ground reaction to each of the outriggers[[,]]; and

an alarm output section ~~which calculates~~ operable to calculate sums of detected values for ground reactions to every two adjacent outriggers to find a minimum value of the sums, ~~the alarm output section then comparing~~ to compare the minimum value ~~obtained~~ with a ~~preset~~ preliminary reference value that represents a preliminary alarm state prior to the crane reaching a stability limitation and a ~~preset~~ limit reference value that represents a need to stop the crane so that the crane reaches the stability limitation in its maximum overhang state or in its minimum overhang state, and ~~outputting~~ to output a preliminary alarm signal when the minimum value is smaller than the preliminary reference value or ~~outputting~~ output a limit alarm signal when the minimum value is smaller than the limit reference value.

2. (Original) The safety device against crane overturning according to Claim 1, characterized in that the load detector is provided with a coned disk spring which serves as an elastic member supporting a load.

3. (Currently amended) The safety device against crane overturning according to Claim 1, characterized in that the load detector is provided

at a base end of ~~an~~ the outrigger cylinder.

4. (Currently amended) The safety device against crane overturning according to Claim 1, characterized in that the load detector is provided at a base end of ~~a~~ the base end arm.

5. (Currently amended) The safety device against crane overturning according to Claim 1, ~~, characterized by~~ further comprising:

setting switching means for enabling ~~a~~ the preliminary reference value and ~~a~~ the limit reference value to be switched and set in accordance with an overhang distance of each outrigger.

6. (Currently amended) The safety device against crane overturning according to Claim 1, ~~, characterized by~~ further comprising:

operation switching means for switching the safety device between an inoperative mode and an operative mode depending on whether the crawler crane is in a traveling mode or in a crane mode.

7. (Currently amended) The safety device against crane overturning according to Claim 1, ~~, characterized by~~ further comprising:

a damage preventing device including a boom length detector that detects ~~the~~ a length of a boom, a boom angle detector that detects ~~the~~ an angle of the boom, a load detector that detects a lifting load, and a calculation control section ~~which determines~~ operable to determine a limit load used to prevent damage and corresponding to a working radius~~, on the basis of~~ based on values detected by the boom length detector and boom angle detector, ~~the calculation control section then comparing~~ to compare the limit load ~~obtained~~ with ~~a value~~ the lifting load detected by the load detector, and ~~outputting~~ to output a damage prevention signal when the ~~value~~ lifting load detected by the load detector reaches ~~the value for~~ the limit load.

8 (New) The safety device according to claim 1 wherein the load

detector is provided at the base end of the outrigger cylinder or the base end of the base end arm; and wherein the load detector comprises:

a load cell in an upper cell case; and

a plurality of coned disk springs provided between a spring pressure of a shaft and a lower cell case, an elasticity of the coned disk springs holding the upper cell case and lower cell case so as to form a gap between the cell cases; and wherein the coned disk springs are arranged to flex when a load is imposed on the lower cell case, causing the load cell to output a load detection signal, and the upper cell case joins to the lower cell case to protect the load cell from overload when the load exceeds a set load.

9. (New) The safety device according to claim 8, further comprising:

a damage preventing device including:

a boom length detector that detects a length of a boom;

a boom angle detector that detects an angle of the boom;

a load detector that detects a lifting load; and

a calculation control section operable to determine a limit load used to prevent damage and corresponding to a working radius calculated based on values detected by the boom length detector and boom angle detector, to compare the limit load with the lifting load detected by the load detector, and to output a damage prevention signal when the lifting load detected by the load detector reaches the limit load.

10. (New) The safety device according to claim 2 wherein the load detector is provided at a base end of the outrigger cylinder or at a base end of the base end arm.

11. (New) The safety device according to claim 2, further comprising:

setting switching means for enabling switching of the preliminary

reference value and the limit reference value to be switched and set in accordance with an overhang distance of each outrigger.

12. (New) The safety device according to claim 2, further comprising:

operation switching means for switching the safety device between an inoperative mode and an operative mode depending on whether the crawler crane is in a traveling mode or in a crane mode.

13. (New) The safety device according to claim 2, further comprising:

a damage preventing device including:

a boom length detector that detects a length of a boom;

a boom angle detector that detects an angle of the boom;

a load detector that detects a lifting load; and

a calculation control section operable to determine a limit load used to prevent damage and corresponding to a working radius calculated based on the length and the angle, to compare the limit load with the lifting load, and to output a damage prevention signal when the lifting load reaches the limit load.

14. (New) The safety device according to claim 8, further comprising:

setting switching means for enabling the preliminary reference value and the limit reference value to be switched and set in accordance with an overhang distance of each outrigger.

15. (New) The safety device according to claim 8, further comprising:

operation switching means for switching the safety device between an inoperative mode and an operative mode depending on whether the crawler crane is in a traveling mode or in a crane mode.

16. (New) In a crawler crane comprising at least four outriggers and a frame, the four outriggers operable to make allowance for variation so as to maximize or minimize an overhang distance, an attaching member rotatively movable in a horizontal direction and supported by the frame, a base end arm supported by the attaching member so that the base end arm can be freely raised and laid, an intermediate arm supported by the base end are so that the intermediate arm can be freely raised and laid, a leading end arm in slidable contact with the intermediate arm, an outrigger cylinder provided between the attaching member and the base end arm and operable to raise and lay the base end arm, an improvement comprising:

a safety device against crane overturning including:

a load detector that detects a ground reaction to each of the outriggers; and

an alarm output section operable to calculate sums of detected values for ground reactions to every two adjacent outriggers to find a minimum value of the sums, to compare the minimum value with a preliminary reference value that represents a preliminary alarm state prior to the crane reaching a stability limitation and a limit reference value that represents a need to stop the crane so that the crane reaches the stability limitation in its maximum overhang state or in its minimum overhang state, and to output a preliminary alarm signal when the minimum value is smaller than the preliminary reference value or output a limit alarm signal when the minimum value is smaller than the limit reference value.

17. (New) In the crawler crane according to claim 16, the improvement further comprising:

a damage preventing device including:

a boom length detector that detects a length of a boom;

a boom angle detector that detects an angle of the boom;

a load detector that detects a lifting load; and

a calculation control section operable to determine a limit load

used to prevent damage and corresponding to a working radius calculated based on the length and the angle, to compare the limit load with the lifting load, and to output a damage prevention signal when the lifting load reaches the limit load.

18. (New) In the crawler crane according to claim 16, the improvement further comprising:

the load detector located at the base end of the outrigger cylinder or the base end of the base end arm; and wherein the load detector comprises:

a load cell in an upper cell case; and

a plurality of coned disk springs provided between a spring pressure of a shaft and a lower cell case, an elasticity of the coned disk springs holding the upper cell case and lower cell case so as to form a gap between the cell cases; and wherein the coned disk springs are arranged to flex when a load is imposed on the lower cell case, causing the load cell to output a load detection signal, and the upper cell case joins to the lower cell case to protect the load cell from overload when the load exceeds a set load.

19. (New) In the crawler crane according to claim 18, the improvement further comprising:

a damage preventing device including:

a boom length detector that detects a length of a boom;

a boom angle detector that detects an angle of the boom;

a load detector that detects a lifting load; and

a calculation control section operable to determine a limit load used to prevent damage and corresponding to a working radius calculated based on the length and the angle, to compare the limit load with the lifting load, and to output a damage prevention signal when the lifting load reaches the limit load.